REMARKS

Applicant thanks the Examiner for the consideration given the present application. Claims 1-8 and 18-20 are active, of which claim 1 is independent; claim 21 is added to provide applicant with the protection to which he is deemed entitled. Claims 9-17 are canceled with the right to file a divisional application on the non-elected subject matter thereof.

Applicant traverses the rejection of claims 1-5, 8, and 18-20 under 35 U.S.C. §103(a) as being unpatentable over Godshalk et al. (U.S. 5,506,515) in view of Burr et al. (U.S. 5,565,788).

Amended independent claim 1 is directed to a high frequency measuring probe having a combination of elements, including a solid dielectric mounting a co-planar conductor structure, the dielectric being arranged on (a) the co-planar conductor structure, and (b) at least one side of the co-planar conductor structure in a central section of the probe so the dielectric is between and spaced from the co-axial cable end and the contact end, each conductor in the co-planar conductor structure including a portion formed to be individually free in space and resilient in relation to the dielectric, and a respective gap being formed between each pair of conductors in the co-planar conductor structure from the co-axial cable end to the contact end in such a way that a constant characteristic impedance is obtained from the co-axial cable end to the contact end. Claim 1 also now requires the co-planar conductor structure to include the ground plane conductor and the signal conductor to be mounted in the same plane of the solid dielectric, a feature not disclosed by the applied references.

Applicants cannot agree that it would have been obvious to one of ordinary skill in the art to have modified the Godshalk system in view of Burr to include a dielectric as defined by claim 1 for matching the probe impedance with the co-axial cable impedance.

As discussed in the previously filed response and stated on page 2 of the Office Action, the high frequency measuring probe of Godshalk does not include a dielectric arranged on at least one side of a co-planar conductor structure in a central section of a probe. In Godshalk, the dielectric is present only as part of the coaxial cable and forms part of a coaxial structure such that there is no dielectric in the region of co-planar structure 74 of FIG. 4.

Also, in contrast to Applicant's independent claim 1, which requires the measuring probe to have a constant impedance over the complete co-planar structure, the distance between Godshalk's conductors 70, 72a and 72b increases in the direction of the measuring probe contact end, resulting in a change in impedance over the measuring probe.

Applicant does not agree with the assertion on page 3, lines 3 and 4 of the Office Action that column 5, lines 20-30, and FIGS. 5 and 5A of Burr discloses a dielectric in a central section of a probe that is between and spaced from a co-axial cable end and a contact end for obtaining a constant characteristic impedance. Burr, at column 5, lines 12 and 13, as well as FIG. 5, discloses that dielectric 88 abuts the end of co-axial cable 82, since the dielectric is mounted on shelf 85 of the coaxial cable (see Burr et at., col. 5, lines 12 and 13). Therefore, dielectric 88 is not spaced from co-axial cable 82. The impedance of the microstrip transmission line formed by dielectric 88, ground plane 90 and metallic leads 92a, 94b and 98 is determined by the width of the metallic leads and by the thickness and dielectric constant of dielectric substrate 88. The electric wave is guided mainly in the volume of dielectric 88 between leads 92a, 94b and 98 and ground plane 90 that is on a surface of the substrate opposite from the leads.

Metallic leads 92a, 94b, and 98 of the microstrip transmission line do not form free ends on the dielectric. Rather, separate contact tips are in the form of signal probe fingers 92, 94. As illustrated in FIG. 5A, dielectric 88 extends beyond the contact end of the microstrip transmission line formed by metallic leads 92a, 94b, 98, whereby dielectric 88 provides a supporting surface for signal probe fingers 92, 94. The contact end of the microstrip transmission line, i.e., metallic leads 92a, 94b, 98, is the junction between metallic leads 92a, 94b, 98 and signal probe fingers 92, 94.

No such junction is required in the structure of Applicant's claim 21 since the transmission lines of the coplanar line and the portions of the lines extending beyond the dielectric are one piece. In Burr, signal probe fingers 92, 94 are made of fingers that are not the same pieces as the microstrip transmission line. Therefore, additional signal probe fingers 92, 94 should not be confused with the contact end of the one piece conductors of the transmission line (which are formed by the metallic leads 92a, 94b, 98 in Burr). In this regard, additional ground probe tip fingers 95a, 95b und 95c are not the same pieces as the micro strip transmission line formed by metallic leads 92a, 94b, 98; fingers 95 are connected with a planar metallic shield 90 by way of vias through dielectric 88. See Burr at column 5, lines 23-26.

A further difference between the structure of new claim 1 and the structure of Burr is that in Burr the impedance is not adequately controlled in the area of contact tips 92, 94, 95a, 95b and 95c. In the structure of claim 1, the transmission lines of the coplanar structure that extend beyond the dielectric provide a complete impedance control right to the tips.

The combination of Godshalk and Burr, would result in a structure having a dielectric only on one complete side of the coplanar structure without any spacing from the coaxial cable. Such a structure would result in the dielectric extending beyond the coplanar structure at the other end. This is the

opposite of the structure of claim 1, in which the dielectric is between and spaced from the coaxial cable end and the contact end formed by the transmission lines of the coplanar structure itself.

Claim 1, as amended, distinguishes over the combination of Godshalk and Burr because the ground plane conductor and a signal conductor are co-planar and on the dielectric, to form a so-called Grounded Coplanar Line having a predetermined impedance in the area of the dielectric. In the remaining areas, these lines form an Air Coplanar Line, the impedance of which is determined by the ratio of the gap between the lines und the thickness of the lines.

Accordingly, amended independent claim 1 is not rendered obvious by Godshalk and Burr. Claims 2-5 and 8 depend on and are allowable with independent claim 1. Withdrawal of the rejection is in order.

Applicant traverses the rejection of claims 6 and 7 under 35 U.S.C. §103(a) as being unpatentable over Godshalk in view of Roach (U.S. 5,512,838). Claims 6 and 7 depend on claims 1 and 6, respectively, and are allowable for at least the same reasons as amended independent claim 1, since Roach in no way cures the deficiencies of Godshalk as a primary reference.

In view of the foregoing, favorable reconsideration and allowance are in order, and such action is respectfully requested.

To the extent necessary, Applicant hereby requests any extension of time required under 37 C.F.R. §1.136 and hereby authorizes the Commissioner to credit any overpayment and/or to charge any

prescribed fees not otherwise paid, including application processing, extra claims, and extension fees, to Deposit Account No. 07-1337.

Respectfully submitted,

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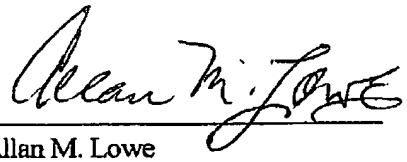
By: 

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